AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method for controlling electrodeposition of a deposition entity comprising the steps of:

preparing a solution or suspension of said deposition entity at a predetermined concentration in the range of about 10 μg/ml to about 1 mg/ml, the deposition entity comprising a biomolecule, a macro molecule, or a synthetic polymer;

providing said solution to a vicinity between a pair of electrodes, said pair of electrodes being in a superposed relation at a predetermined distance between one another; and

applying a potential across said two electrodes sufficient to cause migration of said deposition entity to one of said electrodes and deposition of said deposition entity on said one of said electrodes.

2. (Currently Amended) The method of claim 1 wherein ~~the predetermined concentration of said deposition entity is in the range of about 10 μg/ml to about 1 mg/ml and~~ a volume of said solution is in the range of about 1 mm^3 to about 100 mm^3.

3. (Original) The method of claim 2 wherein the distance between said pair of electrodes is in a range of about 10 nm to about 5.0 mm.

4. (Previously Presented) The method of claim 3 wherein the potential is in the range of about 1 V/cm to about 1,000 V/cm.

5. (Original) The method of claim 1 wherein a monolayer of said deposition entity is deposited on said one of said electrodes.

6. (Original) The method of claim 1 wherein a layer of said deposition entity having a thickness in the range of about 5 nm to about 10 nm is deposited on said one of said electrodes.

7. (Previously Presented) The method of claim 1 wherein said deposition entity is selected from the group consisting of proteins, peptides, enzymes, enzyme substrates, enzyme precursors, enzyme inhibitors, cofactors, drugs, lectins, sugars, oligonucleotides, DNA, RNA, PNA, viruses, bacteria phages, antisense, antigens, haptens, antibodies, amino acids and their derivatives, hormones, lipids, phospholipids, glycolipids, liposomes, nucleotides and light harvesting complexes.

8. (Withdrawn) The method of claim 1 wherein the deposition entity is selected from the group consisting of proteins, Photosystem I, Photosystem II, Light Harvesting Complex 1 and Light Harvesting Complex 2.

9. (Withdrawn) The method of claim 1 wherein one of said electrodes are transparent and said deposition entity is selected from the group consisting of proteins,

Photosystem I, Photosystem II, Light Harvesting Complex 1 and Light Harvesting Complex 2.

10. (Original) The method of claim 1 wherein said solution is provided within a retainer housing positioned between said pair of electrodes.

11. (Withdrawn) A device formed by the method of claim 1.

12. (Withdrawn) The device of claim 11 wherein said deposition entity is selected from the group consisting of proteins, Photosystem I, Photosystem II, Light Harvesting Complex 1 and Light Harvesting Complex 2 and the device is a solid state photosensitive device.

13. (Withdrawn) The device of claim 12 wherein the device is a photovoltaic device.

14. (Withdrawn) The device of claim 11 wherein the device is a biosensor.

15. (Withdrawn) The device of claim 11 wherein the device is a biosensor.

16. (Withdrawn) An apparatus for electrodeposition of a deposition entity comprising:
two electrodes in superimposed relationship;

means for retaining a solution or suspension of said deposition entity between said two electrodes; and

means for applying a potential across said two electrodes sufficient to cause migration of said deposition entity to one of said two electrodes and deposition of said deposition entity on said one of said two electrodes,

wherein the deposition entity comprises a biomolecule, a macro molecule, or a synthetic polymer.

17. (Withdrawn) The apparatus of claim 16 wherein said deposition entity in the solution or suspension has a concentration in the range of about 10 μg/ml to about 1 mg/ml and a volume of said solution or suspension within said means for retaining is in the range of about 1 mm^3 to about 100 mm^3.

18. (Withdrawn) The apparatus of claim 17 wherein the distance between said two electrodes is in a range of about 10 nm to about 5.0 mm.

19. (Withdrawn) The apparatus of claim 18 wherein the potential is in the range of about 1 V/cm to about 1,000 V/cm.

20. (Withdrawn) The apparatus of claim 16 wherein a monolayer of said depositon entity is deposited on said one of said electrodes.

21. (Withdrawn) The apparatus of claim 16 wherein a layer of said deposition entity having a thickness in the range of about 5 nm to about 10 nm is deposited on said one of said electrodes.

22. (Withdrawn) The apparatus of claim 16 wherein said deposition entity is selected from the group consisting of proteins, peptides, enzymes, enzyme substrates, enzyme precursors, enzyme inhibitors, cofactors, drugs, lectins, sugars, oligonucleotides, DNA, RNA, PNA, viruses, bacteria phages, antisense, antigens, haptens, antibodies, amino acids and their derivatives, hormones, lipids, phospholipids, glycolipids, liposomes, nucleotides and light harvesting complexes.

23. (Withdrawn) The apparatus of claim 16 wherein the deposition entity is selected from the group consisting of proteins, Photosystem I, Photosystem II, Light Harvesting Complex 1 and Light Harvesting Complex 2.

24. (Withdrawn) The apparatus of claim 16 wherein one of said electrodes are transparent and said deposition entity is selected from the group consisting of proteins, Photosystem I, Photosystem II, Light Harvesting Complex 1 and Light Harvesting Complex 2.